

CLAIMS

What is claimed is:

1. A shield comprising:
an attachment mechanism disposed on an outer surface to attach
5 the shield to a joint of a boreless compressor wheel; and
a passage extending from a proximate end of the shield to a distal
end of the shield.
2. The shield of claim 1 wherein the attachment mechanism comprises
10 threads.
3. The shield of claim 1 wherein the passage provides access to an end
surface of a joint of a boreless compressor wheel when the shield is inserted at
least partially in the joint.
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4. The shield of claim 1 comprising a resin.
5. The shield of claim 4 wherein the resin comprises a polymer.
- 20 6. The shield of claim 1 wherein the attachment mechanism comprises an
outer surface capable of being in contact with a surface of a joint of a boreless
compressor wheel.

7. The shield of claim 1 wherein the shield prevents material entering the passage from contacting a pilot surface of a joint of a boreless compressor wheel.
8. The shield of claim 1 wherein the shield prevents material entering the passage from contacting an attachment mechanism a joint of a boreless compressor wheel.
9. The shield of claim 1 further comprising a base portion that includes an attachment mechanism to attach the shield to a fitting of a tube associated with a cold working process.
10. The shield of claim 1 further comprising a base portion that includes one or more openings that allow material associated with a cold working process to exit the passage.
11. The shield of claim 1 further comprising a pressure fit surface positioned proximate to the distal end of the shield to form a pressure fit with a surface of a joint of a boreless compressor wheel.
12. The shield of claim 1 further comprising a boreless compressor wheel.
13. An assembly comprising:
a boreless compressor wheel that includes a joint; and

a shield that comprises an attachment mechanism disposed on an outer surface to attach the shield to the joint and a passage extending from a proximate end of the shield to a distal end of the shield.

- 5 14. The assembly of claim 13 wherein the passage allows material associated with a cold working process to contact an end surface of the joint without contacting one or more other surfaces of the joint.

- 10 15. A boreless compressor wheel comprising a joint that includes an end surface at least partially treated by a cold working process.

16. The boreless compressor wheel of claim 15 further comprising one or more surfaces untreated by the cold working process.

- 15 17. The boreless compressor wheel of claim 15 further comprising a shaft inserted at least partially in the joint.

18. A method comprising:
 inserting a shield at least partially in a joint of a boreless compressor
20 wheel; and
 treating, at least partially, an end surface of the joint to thereby reduce fatigue of the boreless compressor wheel.

19. The method of claim 18 wherein the treating comprises a cold working process.

20. The method of claim 18 wherein the treating comprises shot-peening.

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21. The method of claim 18 wherein the inserting comprises rotating.